

above an activation temperature to render it into a mouldable condition. The plastics sheet material may be, for example polypropylene, acrylonitrile butadiene styrene, high impact polystyrene, high density polyethylene, polyethylene terephthalate glycol, polycarbonate, acrylic and polyaliphatic carbonate. Many plastics sheet materials typically cost less than foam to purchase and storage costs are reduced since typically the material is much thinner. Plastics materials are typically much more robust than foam and do not absorb materials that are spilt on to them. Also, for surgical applications, selecting the appropriate plastics material enables any tool cabinets in which it is used to be subjected to an autoclave process. Since plastics materials are typically non-absorbent and non-porous they are significantly more hygienic than foam for surgical instrument apparatus.

[0025] Advantageously the method can include using a vacuum forming process to mould the mouldable material around the inventory items, or blanks/equivalents thereof. The vacuum forming process typically includes placing each of the inventory items, or blanks/equivalents thereof, on the deck of the vacuum forming machine. The inventory items, or blanks/equivalents thereof, are arranged to provide the desired layout of recesses in the receptacle. Typically the inventory items are arranged to lie substantially within the same plane such that the depth of the recess substantially matches the depth of the inventory items. The plastics material is heated up until it is mouldable and is then laid over the deck of the vacuum forming machine and the air is evacuated thereby sucking the material to lie over the inventory items in a tight fitting manner, thus forming the storage receptacle having recesses that match the shape of the inventory items. Typically a thermoforming plastics material is used. The thermoplastic material is set by cooling to a temperature below its moulding temperature. Typically the receptacle will be cooled to room temperature.

[0026] Advantageously, the method can include forming at least one finger access recess. The or each finger access recess is substantially contiguous with the inventory item recess and is arranged to enable a user to more easily prise the inventory item from its recess.

[0027] The method can include, as a pre-step to the moulding process, producing a blank or formation that can be placed adjacent to the inventory item to form the finger access recess. Alternatively, a suitable blank of the inventory item can be formed with an additional formation to provide the or each finger recess.

[0028] Advantageously, the method can include forming formations in the inventory item recesses that are arranged to retain the inventory item in the recess and/or to provide tactile feed back to a user removing the inventory item from the recess. For example, each formation may comprise any one of the following: a substantially continuous overhanging lip around the rim, one or more lip portions extending partially around the rim, an undercut portion, a protrusion or rib in a side wall the recess. The formations can be produced during the moulding process by providing an appropriate blank.

[0029] The method can include forming a monitoring feature in the mouldable material that is arranged for receiving equipment associated with the inventory item monitoring system, such as a through hole. Advantageously the hole can be formed during the moulding process, for example the or each tool blank may include a protrusion to create a hole or additional recess in the sheet material for a sensor (see

below). Alternatively the hole can be provided by a subsequent drilling or cutting procedure.

[0030] Advantageously, the method can include forming inventory item identification indicia in the receptacle. For example, during the moulding processes inventory item names, codes or other identifiers be formed in the moulded body of the receptacle. In the art, it is known to adhere labels to foam inserts, however the labels are often torn during use or the printed text fades with time. Forming the or each identifier in the tool storage receptacle structure overcomes the need for such labels and makes a much more robust sign. The indicia can be produced by assembling a line of embossed characters adjacent an inventory item such that when the vacuum forming process takes place, the words/code is formed in the moulded material. Where necessary, reversed embossed characters can be used. The indicia can be used for visual inspection and can also be used as monitoring features for monitoring systems that have an optical character recognition capability.

[0031] Advantageously, monitoring features may be formed, whereby a monitoring device is connected to the receptacle. Such features may include, for example, a recess, a hole, or a protrusion.

[0032] Advantageously the method can include texturing the or each recess and/or the surrounding material to provide an improved visual contrast between the recesses and the surrounding material. This makes it easier for visual and machine optical inspections as to whether a tool is present or absent. Advantageously the method may include texturing the or each tool blank.

[0033] Advantageously, the method can include using first and second sheets of mouldable material layered one on top of the other and removing portions of one of the sheets after moulding to expose the other material. This provides a contrast in texture and/or colour between the recesses and the surrounding material and assists visual and machine optical inspections to determine whether a tool is present or absent.

[0034] Advantageously, the method can include coating the receptacle with pigment, paint, dye, ink or similar in order to produce contrasting colours for the recesses and the surrounding material.

[0035] Advantageously, the method can include forming at least one recess in a portion of a deformable material by forcing the or each tool into the material to create the or each recess. Advantageously the or each recess formed in the material is substantially complementary to the tool in at least the plan view. Typically, each recess is substantially prismatic. The material can be arranged to substantially retain the shape of the or each recess formed therein after the tool has been removed. For example, the material can be substantially solid and plastically deformable, such as a clay or gel like substance. Advantageously the method can include treating the material in order to fix the shape of the or each recess. The material may be treated to make it substantially rigid at least in the locale of the or each recess, so that inserting and extracting the tool does not distort the shape of the recess. The material can be cured, for example by exposure to air, heat, light, UV light, or by addition of a curing agent. Additionally, or alternatively, the material can be coated with a hardenable material such as a resin. This increases the durability of the tool holder. Any suitable material can be used, for example clay, which can be fired to retain the shape of the or each recess, a curable gel or polymer such as curable silicone gel, polymer gel or epoxy resins and hardening catalysts that can